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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/919,610 | 08/01/2001 | Dieter Grohmann | 225/50239 | 2507 |

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| EXAMINER |
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MASKULINSKI, MICHAEL C

| ART UNIT | PAPER NUMBER |
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2113

DATE MAILED: 09/14/2004 9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,610

Applicant(s)

GROHMANN ET AL.

Examiner

Michael C Maskulinski

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-10 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Non-Final Office Action

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3, 11, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 3 and 15 recite the limitation "the at least one control output of the element" in line 8. There is insufficient antecedent basis for this limitation in the claim. The Examiner has interpreted this claim language to mean "at least one control output of the element."
4. Claim 11 recites the limitation "the data output signal" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. The Examiner has interpreted this claim language to mean "a data output signal."

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2113

6. Claims 1-3, 6-8, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Logic and Computer Design Fundamentals, by Mano & Kime.

Referring to claims 1, 12, and 13:

- a. On page 180, in Figure 4-7, Mano & Kime disclose an SR Latch with control input (the element has at least one control input to which an external control signal can be supplied).
- b. On page 180, in Figure 4-7, Mano & Kime disclose that the output of Q can be varied (a variable can be varied in the element as a function of the external control signal).
- c. On page 180, in Figure 4-7, Mano & Kime teach that when the variable has a specific value and the external control signal is at a first signal level, the variable assumes a value which differs from the specific value and when the variable is at that specific value and an external control signal which is at the first signal level is once again applied, that the variable remains at that specific value.

Referring to claims 2 and 14:

- a. On pages 176-177, in section 4-2, Mano & Kime disclose that a storage element can maintain a binary state indefinitely, until directed by an input signal to switch states (the variable is reset when the element has finished carrying out the particular function).
- b. On page 180, in Figure 4-7, Mano & Kime disclose resetting Q (the variable) and outputting the inverse of Q at the time of reset (an external

Art Unit: 2113

control signal which is at the first signal level via at least one control output of the element).

Referring to claims 3 and 15:

- a. On page 180, in Figure 4-7, Mano & Kime teach that the specific value is zero and the value which differs from the specific value is nonzero.
- b. On page 180, in Figure 4-7, Mano & Kime disclose that when $Q = "0"$, $S = "0"$ (the variable assumes the value "0" when the at least one control input of the element is supplied with an external control signal which is at a second signal level). Further, in Figure 4-7, Mano & Kime disclose that Q is an output of the circuit (with an external signal which is at the second level then being output via at least one control output of the element).

Referring to claim 6, on page 180, in Figure 4-7, Mano & Kime disclose control inputs C , S , and R (the element has a number of control inputs). Further, Mano & Kime disclose that when $S = "1"$, $Q = "1"$ (an external control signal which is at the first signal level being output via the at least one control output when a control signal which corresponds to the first signal level is applied to at least one control input).

Referring to claim 7, on page 180, in Figure 4-7, Mano & Kime disclose R (one control input), Q (at least one control output), S (at least one data input), and C (an external control signal, which is applied to the control input and is at the first signal level). Further, Mano & Kime teach one control output being

Art Unit: 2113

output via that control output which is determined by the function of the element as a function of the signal which is applied to the at least one data input.

Referring to claim 8, on page 180, in Figure 4-7, Mano and Kime disclose S (at least one data input signal) and Q (at least one data output signal). Further, Mano & Kime teach that the particular function comprises formation of at least one data output signal from the at least one data input signal which are applied to at least one data input; and the at least one data output signal is output via at least one data output.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mano & Kime as applied to claim 1 above, and further in view of Yoon, U.S. Patent 6,697,995 B1.

Referring to claim 9, on page 180, Mano & Kime disclose a logic circuit with outputs that are a result of different inputs. However, Mano & Kime don't explicitly disclose that the particular function of the element is a time measurement. In column 2, lines 66-67 continued in column 3, lines 1-11, Yoon discloses that after all the logic operations have been performed, a time elapsed to perform all the logic operations is compared with a predetermined time to

Art Unit: 2113

check for errors. It would have been obvious to one of ordinary skill at the time of the invention to include the time measurement of Yoon into the circuit of Mano & Kime. A person of ordinary skill in the art would have been motivated to make the modification because it is a means of detecting errors in logic operations, which improves the safety of control systems (see Yoon: column 1, lines 11-26).

Referring to claim 10, on page 180, Mano & Kime disclose a logic circuit with outputs that are a result of different inputs. However, Mano & Kime don't explicitly disclose that the time measurement is carried out by measuring a specific time period from the beginning of one of an application of an external control signal at the first signal level, an application of a specific signal at a data input, or an application of a signal combination at a number of data inputs of the element, with one of an external control signal at the first signal level being output at the end of the time period via a control output of the element, and/or a corresponding data signal being output at one or more data outputs. In column 2, lines 66-67 continued in column 3, lines 1-11, Yoon discloses that after all the logic operations have been performed, a time elapsed to perform all the logic operations is compared with a predetermined time to check for errors. It would have been obvious to one of ordinary skill at the time of the invention to include the time measurement of Yoon into the circuit of Mano & Kime. A person of ordinary skill in the art would have been motivated to make the modification because it is a means of detecting errors in logic operations, which improves the safety of control systems (see Yoon: column 1, lines 11-26).

Art Unit: 2113

Allowable Subject Matter

9. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claim 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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| US 2002/0188432 A1 | Houlihane et al. |
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| US 2001/0032025 A1 | Lenz et al. |
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| U.S. Patent 6,009,539 | Ranson |
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| U.S. Patent 5,592,655 | Takamine et al. |
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| U.S. Patent 4,748,553 | Itoh et al. |
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| U.S. Patent 3,921,146 | Danco |
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (703) 308-6674. After October 14, 2004, please use the telephone number: (571) 272-3649. The examiner can normally be reached on Monday-Friday 9:30-6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (703) 305-9713.

Art Unit: 2113

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM


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